

External work placement

Code: 103269
ECTS Credits: 12

Degree	Type	Year	Semester
2501922 Nanoscience and Nanotechnology	OT	4	0

The proposed teaching and assessment methodology that appear in the guide may be subject to changes as a result of the restrictions to face-to-face class attendance imposed by the health authorities.

Errata

Within the "Assessment" section, there has been an error in not including the oral defense. The assessment will consist of the assessment made by the tutor of the company/technical service (50%), and the assessments, made by the coordinator of the subject, of the written thesis (25%) and the oral defense (25%).

Contact

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Use of Languages

Principal working language: catalan (cat)
Some groups entirely in English: No
Some groups entirely in Catalan: No
Some groups entirely in Spanish: No

Teachers

Gemma Garcia Alonso

Prerequisites

It is recommended that students who enroll in the external academic practicum have passed the first two years of their degree and have completed 180 credits.

Objectives and Contextualisation

The main objective is that students can put into practice the knowledge acquired in the degree, bringing them closer to the reality of work and facilitate their future entry into the world of employment.

The entities who can participate in the programme are companies, spin-offs, technological centres, scientific-technical services and technical divisions of research centres and universities.

Competences

- Adapt to new situations.
- Apply ethical principles and legislative standards to the field of nanoscience and nanotechnology.
- Apply the concepts, principles, theories and fundamental facts of nanoscience and nanotechnology to solve problems of a quantitative or qualitative nature in the field of nanoscience and nanotechnology.

- Apply the general standards for safety and operations in a laboratory and the specific regulations for the use of chemical and biological instruments, products and materials in consideration of their properties and the risks.
- Be ethically committed.
- Communicate orally and in writing in ones own language.
- Demonstrate knowledge of legislation on intellectual property in the field of knowledge and application of nanoscience and nanotechnology.
- Demonstrate knowledge of the concepts, principles, theories and fundamental facts related with nanoscience and nanotechnology.
- Handle the standard instruments and materials of physical, chemical and biological testing laboratories for the study and analysis of phenomena on a nanoscale.
- Interpret the data obtained by means of experimental measures, including the use of computer tools, identify and understand their meanings in relation to appropriate chemical, physical or biological theories.
- Manage the organisation and planning of tasks.
- Obtain, manage, analyse, synthesise and present information, including the use of digital and computerised media.
- Operate with a certain degree of autonomy.
- Reason in a critical manner
- Recognise the terms used in the fields of physics, chemistry, biology, nanoscience and nanotechnology in the English language and use English effectively in writing and orally in all areas of work.
- Resolve problems and make decisions.
- Show initiative and an enterprising spirit.
- Show motivation for quality.
- Show sensitivity for environmental issues.
- Work correctly with the formulas, chemical equations and magnitudes used in chemistry.
- Work on the synthesis, characterisation and study of the properties of materials on a nanoscale from previously established procedures.

Learning Outcomes

1. Adapt to new situations.
2. Apply ethical principles and legal standards to activities in the company during work experience.
3. Be ethically committed.
4. Communicate orally and in writing in ones own language.
5. Correctly apply concepts and theories related with nanoscience and nanotechnology to the professional world
6. Integrate acquired knowledge and skills to solve problems in the professional field.
7. Manage the organisation and planning of tasks.
8. Obtain, manage, analyse, synthesise and present information, including the use of digital and computerised media.
9. Operate with a certain degree of autonomy.
10. Produce a summary in English of the work done.
11. Produce an explanatory report of the results obtained in a professional study in fields related with nanoscience and nanotechnology.
12. Properly handle reagents and chemistry products.
13. Reason in a critical manner
14. Recognise the legal standards for activities in the company during work experience.
15. Resolve problems and make decisions.
16. Show initiative and an enterprising spirit.
17. Show motivation for quality.
18. Show sensitivity for environmental issues.
19. Show the necessary skill to develop synthesis and characterisation studies of materials in the professional field
20. Show the necessary skill to handle the instruments required for professional work in fields related with nanoscience and nanotechnology.
21. Work correctly with the formulas, chemical equations and magnitudes used in chemistry.

Content

The content of the internship will depend on the nature of the company or institution where the internship will be performed.

Before starting the internship, the student should have:

- A workplan agreed with the company or institution and validated by the responsible of the External Internship.
- A collaboration official agreement between the institution and the UAB correctly completed and signed.

Methodology

The external academic practicum can be carried out either during term time or during the summer.

The Student can perform the internship in companies, technological centres or scientific-technical services from the catalogue of proposals offered by the university, or other companies/institutions, either from the historical catalogue offered by the university or other companies chosen by the own Student who has previously contacted with the company/institution.

Before performing the internship, the Student should meet the responsible of the subject of External Internship, who should validate the proposal of company/institution.

The Student will meet the responsible person from the company/institution to agree in the following concepts:

- The workplan, with the specific tasks to be developed during the internship.
- The duration of the internship, the working hours, and the overall number of hours.

The Student will send this information to the responsible of the subject of External Internship to obtain the final validation. This will allow the Student to go to Academic Management services of the Faculty to request a model of agreement and process it in case of external institution (with respect to UAB).

The enrolment to the subject will be performed once the agreement is signed.

Once the agreement is signed by the three parties, the Student can perform the internship during the agreed period. It is not possible to start the internship if the agreement is not correctly filled and signed, with no enrolment in the subject or without the corresponding Insurance.

Once the internship has been completed, the Student should write a report according to the model uploaded in the Moodle classroom of the subject. This report should be delivered before the deadline.

The responsible of the company/institution will perform an evaluation following an established model, that will be delivered to the responsible of the subject during the evaluation period.

Annotation: Within the schedule set by the centre or degree programme, 15 minutes of one class will be reserved for students to evaluate their lecturers and their courses or modules through questionnaires.

Activities

Title	Hours	ECTS	Learning Outcomes
Type: Directed			
guided activities	40	1.6	1, 5, 6, 12, 3, 8, 14, 21
preparation of the report and the oral presentation	18	0.72	4, 17, 13, 11, 10

Type: Supervised

supervised activities	61	2.44	1, 5, 2, 19, 20, 7, 6, 12, 3, 18, 13, 14, 15, 21
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Type: Autonomous

self-work	180	7.2	1, 5, 2, 16, 19, 20, 17, 7, 6, 12, 3, 18, 8, 9, 13, 14, 15, 21
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Assessment

The evaluation Will be performed through a report to be presented (50% of the final mark) and an evaluation from the responsible from the external company/institution (50% of the final mark).

The report Will follow the indications found in the Moodle classroom of the subject, remarking the following points:

- The scientific and technical correctness of the performed work.
- The formal correctness (writing, organization, vocabulary, etc.) as well as the correct presentation.

The evaluation from the external responsible will be done according to a model delivered to him/her by the responsible of the subject of External Internships during the evaluation period.

To average the two components of the final mark, it is required to get, at least, 4 out of 10 points in each of these parts (evaluation from the responsible of the subject and from the company/institution where the internship is performed).

If the mark from the responsible from the company/institution where the internship has been performed is less than 4, the subject will have a final note of "fail".

If the mark from the report/presentation is less than 4, the subject will be "not possible to be evaluated" and the student will have to rewrite and present the report again in the next call of the academic course.

The responsible professor will be able, when considered necessary, interview the student.

Assessment Activities

Title	Weighting	Hours	ECTS	Learning Outcomes
oral presentation	25%	1	0.04	4, 17, 13
tutor evaluation	50%	0	0	1, 5, 2, 16, 19, 20, 17, 7, 6, 12, 3, 18, 8, 9, 13, 14, 15, 21
written report	25%	0	0	4, 8, 13, 11, 10

Bibliography

N/A

Software

Specific software from the company where the Internship is developed, and office tools to prepare the report and the presentation.